

Appl. No. 10/738,469
Amdt. Dated April 3, 2006
Reply to Office Action of November 03, 2005
Attorney Docket K-2104

REMARKS AND ARGUMENTS:

1. Rejection of Claim 1 under 35 U.S.C 103

The Examiner rejected Claims 1 under 35 U.S.C. 103(a) as being unpatentable over Cselle '034 in view of Ebenhoch et al. '740. The Examiner stated:

"Cselle '034 lacks the third helical portion having a twist in an opposite direction of the second helical portion. Ebenhoch et al. '740 shows in Figure 2 a flute having three distinct portions (I, II, II) with the third portion (III) twisting in an opposite direction of the second portion (II) at a 0° helix angle (aligned with tool axis) and the second twisted portion capable of being subdivided into segments with a differing helical angle (col. 3, lines 26-35). In view of this teaching of Ebenhoch et al. '740, it is considered to have been obvious to add a third portion twisting in an opposite direction of the second portion of Ebenhoch et al. '740 to the twist drill of Cselle '034 to provide a much improved chip evacuation channel and a greater tool body stiffness to counter elastic bending deformation."

Applicant respectfully submits that to establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the applied references must teach or suggest all the claim limitations.

It is respectfully submitted that the Office action does not meet the criteria for establishing a *prima facie* case of obviousness.

Cselle '034 appears to teach a drill having only two portions, a first portion near the cutting edge having a positive rake angle and a second portion having a negative rake angle. To address the deficiencies of Cselle '034 the Examiner has cited the teachings of Ebenhoch '740. Ebenhoch '740 appears to teach a drill having three portions, a first portion near the cutting edge that extends "essentially axially", a second portion that has positive rake angle, and a third portion that is straight. The two references can be summarized for the sake of this argument as follows: Cselle '034's flute portions are positive then negative; Ebenhoch '740's flute portions are neutral, positive then neutral.

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In contrast, Applicant's claim 1 describes a drill having three helical portions wherein the second portion twists in a direction opposite the first and the third portion twists in a direction opposite the second. Ebenhoch '740 does not teach or suggest a "helical" third portion. The third portion of Ebenhoch '740 does not twist at all. It is neutral or straight and therefore, not helical. In addition, Ebenhoch '740 does not teach or suggest that the third portion twists in a direction opposite the second portion. The opposite of one helical direction (positive or negative) is the other helical direction (positive or negative). Neutral is not the opposite of either a positive or negative helical direction. Thus, Ebenhoch '740 does not disclose a third helical portion twisting in a direction opposite the second helical portion. Cselle '034 has only two portions, so all of the applicants claim limitations are not present in the references. Since all claim limitations are not present, a *prima facie* case of obviousness has not been demonstrated. For at least this reason, Claim 1 is allowable over the applied art. Withdrawal of the rejection is respectfully requested.

The remaining claims all depend from independent claim 1. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Withdrawal of the rejection of claims 2-22 is respectfully requested.

2. Declaration Pursuant to 37 C.F.R. 1.132

As part this submission attached hereto is a declaration pursuant to 37 C.F.R. 1.132 by Charles Petrosky. The Declarant states that neither reference teaches or suggests a drill having three helical portions wherein the second portion twists in a direction opposite the first and the third portion twists in a direction opposite the second. In addition, the Declarant further states it is not obvious to a person having ordinary skill in the art to include a drill in which a second portion twists in a direction opposite the first and the third portion twists in a direction opposite the second. The declaration is submitted along with this paper.

3. Authorization to Charge Deposit Account

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The Commissioner is hereby authorized to charge the appropriate fee according to 37 C.F.R. 1.17(e) to the Kennametal Deposit Account No. 502867.

4. Request For Telephone Interview

As a final matter, if the Examiner has any suggestions concerning different claim phraseology that, in the opinion of the Examiner, more accurately defines the present invention, prior to issuance of another Office Action, Applicant's undersigned agent requests the courtesy of a telephone interview at the Examiner's earliest convenience to discuss the application. Applicant's undersigned agent may be contacted at (724) 539-4843.

5. Conclusion

In view of the above remarks and attached declaration, it is believed that the application is in condition for allowance. Accordingly, an early Notice of Allowance is respectfully requested.

Respectfully submitted,



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Date: April 3, 2006

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